

# Electrical and Computer Engineering Department Class Scheduler Application

Zachary Bunch, Chris Horvatic, Charlie Mulderink, Connor Gaecke

## Introduction

We were tasked with creating a more efficient and user-friendly way of scheduling classes for the ECpE department at ISU. Our primary goal was to create an application that was more efficient to use than Excel but did not require the user to have to use a complex application. Additionally, one of our unrealized goals was to create a built in class scheduling feature to reduce the amount of work done by hand. Our client currently has to create the schedule by hand in Excel, and we wanted to reduce the amount of time spent to create the class schedule each semester.

## Design Requirements

- Output should be able to be based on previous semester schedules
- Include any labs associated with classes
- Application is standalone, not a web application
- Cross-listed classes should not be listed twice
- Ability to add classes from other departments

## Technical Details

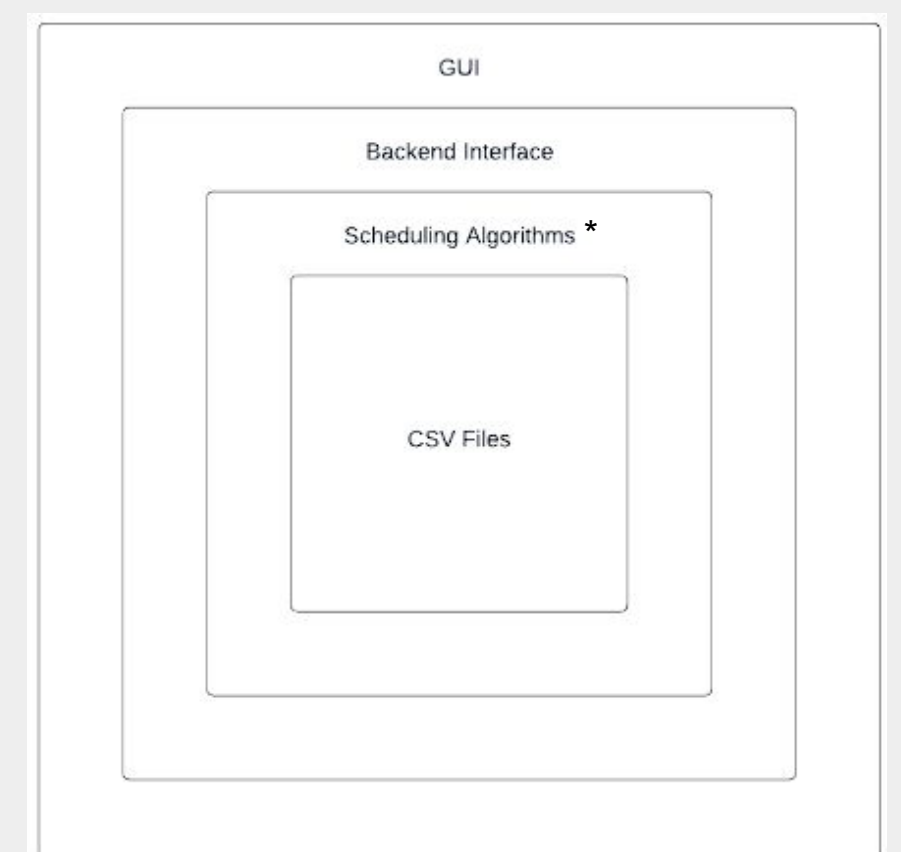
- Entire application was written in Python
- Used TKinter framework for GUI development
- Internal database made up of CSV files

## Testing

- Overall system testing of GUI elements
  - Correctly displaying data from dictionary
  - Testing functionality of TKinter tools
- Unit testing for backend
  - CSV file parsing

## Design Approach

- Backend stores course information as CSV files
- Backend interface converts .csv files into python dictionary and passed to frontend
- GUI displays course information
- Backend interface stores schedules from frontend as CSV files



## Finalized Product

	A	B	C	D	E	F	G	H	I	J	K	L	M
1		8:00	8:30	9:00	9:30	10:00	10:30	11:00	11:30	12:00	12:30	1:00	1:30
2	M			C381	C381	E201	E201	E417/517	E417/517	E285	E285	E/C294	E/C294
3				E/C330	E/C330	E311	E311	E438/538	E438/538			E/C394	E/C394
4				C281(W)	C281	E/C435	E/C435	C563x	C563x	E432/532	E432/532		
5				E451	E451	E496	E496	S319	S319	E425	E425		
6				E436X	E436X	S185	S185			E322	E322	E322	
7						E521	E521	E520	E520	E520			
8				C308	C308			C533	C533				
9				C/E418	C/E418			E455	E455	E455			
10				E533X	E533X	E533X		E538	E538	C437X	C437X	C437X	
11						C287X	C287X	C287X				C294	C294
12													
13										C538			
14													
15										E417/517 (1)		E417/517 (1)	
16													

- Classes for each department are listed in drop-down menus on left side panel
- The look of the main table imitates the look of the spreadsheet
- You can add classes and labs at specific times on the right-side panel

The screenshot shows the 'Scheduling app' interface. On the left, there is a 'Classes' list with a tree view of departments (BME, C, CE, CEE, CEK, CS, CSW, CW, CX, Ca, E, EC, ECS, ECW, EM, EX, S, SC, NCEK, WCS). The main area is a grid with columns for days (M, T, W, T, F, S, S) and rows for time slots (8:00am, 8:30am, 9:00am, 9:30am, 10:00am, 10:30am, 11:00am, 11:30am, 12:00pm, 12:30pm, 1:00pm, 1:30pm). The grid contains class codes like C308, C281, E201, etc. On the right, there is a panel with 'Name', 'Group', 'Times' input fields, and buttons for 'add', 'remove', 'Lab times', 'Locked', and 'Notes'.

- Time-slot panels are updated based on changes made in the right-side panel